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Reed S. Oslan
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February 14, 1994

BY MESSENGER

Steven Siegel, Esq.
U.S. Environmental Protection Agency, CS-3T
77 West Jackson Boulevard
Chicago, IL 60604

Re: Section 104(e) Information Request for
the NL Industries Superfund Site, Granite City, IL

Dear Mr. Siegel:

Enclosed is information NL has identified that is responsive to U.S. EPA's Section 104(e) request for the Granite City Superfund Site.

Please call me if you have any questions.

Very truly yours,

Reed S. Oslan /bas

Reed S. Oslan, Esq.

RSO:bas
Enclosures

cc: Stephen W. Holt

Stephen W. Holt
Senior Environmental Engineer

NL

VIA CERTIFIED MAIL RRR P 321 452 326

February 14, 1994

Steven Siegel, Esq.
U.S. Environmental Protection Agency, CS-3T
77 West Jackson Boulevard
Chicago, IL 60604

Re: Section 104(e) Information Request for
the NL Industries Superfund Site, Granite City, IL

Dear Mr. Siegel:

Set forth herein are the objections and responses of NL Industries, Inc. ("NL") to the request for information ("Request") issued by U.S. EPA on January 11, 1994 pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9604(e).

GENERAL OBJECTIONS

(1) In responding to the Request, NL has conducted a reasonable search of its records kept in the ordinary course of business where information responsive to the Request is most likely to be found. NL also has interviewed appropriate employees who NL believed might possess knowledge relating to U.S. EPA's request. To the extent that the Request purports to require NL to take steps beyond those outlined above, NL objects to the Request on the grounds that it is overly broad and burdensome and beyond U.S. EPA's authority under CERCLA § 104(e).

(2) NL objects to the Instructions and Definitions contained in the Request to the extent that they are vague, overly broad or burdensome or to the extent that they purport to impose requirements beyond those set forth in CERCLA § 104(e).

(3) NL objects to the Request to the extent it seeks information that is protected by privilege or work product doctrine or otherwise protected pursuant to CERCLA § 104(e) (7) and other applicable regulations.

NL Industries, Inc.
Corporate Environmental Services
P.O. Box 1090, Hightstown, N.J. 08520 Tel. (609) 443-2405
Telecopier (609) 443-2374

(4) NL objects to the Request to the extent U.S. EPA requires NL to provide or formulate legal conclusions.

(5) NL specifically objects to Instruction No. 7 which requires that NL submit a notarized affidavit in support of its response. The statutory provisions of Section 104(e) may require NL to furnish to U.S. EPA responsive information in its possession, based on a review of documents and employee interviews. However, there is no requirement that a notarized affidavit be submitted in connection with NL's responses.

RESPONSES

1. Identify all persons consulted in the preparation of the answers to these Information Requests.

Response:

Stephen W. Holt
Senior Environmental Engineer
NL Industries, Inc.
P.O. Box 1090
Wyckoffs Mill Road
Hightstown, NJ 08520

Al Minarcik
(Former NL Metal Division Metallurgist)
357A New Haven Way
Jamesburg, NJ 08831

Counsel for NL

(2) Identify all documents consulted, examined, or referred to in the preparation of the answers to these Requests and provide copies of all such documents.

Response: NL objects to this Request because it is overly broad and burdensome. Without waiving this objection, NL will product all relevant and responsive documents to this Request.

(3) If you have reason to believe that there may be persons able to provide a more detailed or more complete response to any portion of the Information Requests below or who may be able to provide additional responsive documents, identify such persons and their phone number, address, current place of employment and job title.

Response: NL has no reason to believe that persons, other than those that my be identified in the documents provided by NL in

response to this Request, have more information than is now available.

4. Furnish all reports, sampling data, depositions, documents, affidavits, and other information or data regarding the release or threat of release of a hazardous substance or pollutant or contaminant from the waste dump or "Taracorp Pile" at the site ("the waste dump") which has not previously been provided to U.S. EPA, Region V, in connection with the Site. Indicate each specific hazardous substance or pollutant or contaminant which may be in the dump and the estimated quantity of the material.

Response: Without waiving its General Objections, in connection with the Remedial Investigation and Feasibility Study ("RI/FS") conducted on the Site, NL provided to U.S. EPA information and documents responsive to this request. On April 7, 1983, NL also furnished to Illinois EPA information relating to historical operations with respect to the pile at the Granite City facility. (See April 7, 1983 letter attached as Exhibit A).

Notwithstanding this prior disclosures regarding general disposal practices at the Site, there is some indication that thallium may have been used at the Site in small quantities for special orders or for research purposes. Many former NL employees are not aware of any use or disposal of thallium at the Site. However, a few former NL employees have testified in depositions that thallium was disposed in the waste pile in sealed metal drums encased in concrete. The relevant excerpts from the depositions of the following former employees are enclosed: Michael Cover (attached as Exhibit B); Michael Economy (attached as Exhibit C); Albert Orr (attached as Exhibit D); James Rains (attached as Exhibit E); and John Roper (attached as Exhibit F). Also enclosed is an internal NL memorandum regarding the possible disposal of thallium dross generated at the Granite City lead plant. (See November 29, 1971 memorandum attached as Exhibit G).

In addition, there is some indication that small amounts of tellurium were used and disposed at the Site. However, NL does not possess any records relating to the use or disposal of tellurium at the Site. Although many former NL employees are not aware of any use or disposal of tellurium at the Site, two former NL employees have testified at depositions that drums of tellurium were encased in concrete and disposed at the waste pile. The relevant excerpts from the depositions of the following former employees are enclosed: Michael Cover (attached as Exhibit B); and Robert Schikore (attached as Exhibit H). However, NL believes that there may be some confusion with respect to the presence of "thallium" versus "tellurium" at the Site.

5. Furnish all reports, photographs, sampling data, depositions, documents, affidavits, and all other information or data regarding the waste dump at the Site which indicate the depth of the waste dump (i.e. whether the dump was initially a hole in the ground or whether waste materials were initially placed at ground level.

Response: Without waiving its General Objections, NL believes that waste materials were placed on grade, with no excavation or filling of holes. (See April 7, 1983 letter attached as Exhibit A). NL's belief is supported by the Test Trenching of the Slag Pile, which was conducted in connection with the RI/FS and witnessed by Brad Bradley, U.S. EPA - Region V. In connection with the Test Trenching, Nl provided to U.S. EPA information and documents responsive to this Request. Former NL employees testified that NL would place concrete-encased drums containing thallium or tellurium in a hole in the pile. (See relevant excerpts from Cover deposition attached as Exhibit B; Economy Deposition attached as Exhibit C; and Orr deposition attached as Exhibit D.)

6. Furnish all known information not previously provided to U.S. EPA, Region V, in connection with this Site, which describes how and when materials were added to the waste dump, who added the materials to the dump, and the processes each hazardous substance or pollutant or contaminant was exposed to prior to its placement in the dump, and a detailed description of the materials in such processes. Indicate whether such processes were likely to cause additional hazardous subetances, pollutants, or contaminants to be placed in the waste dump. For example, if lead scrap or battery cases were placed in the waste dump, and such scrap may have first been exposed to processes containing Tellurium or other hazardous substances, pollutants, or contaminants, furnish all information regarding such materials, how they may have been added to the waste dump, and the quantity of material which may have been added to the waste dump.

Response: NL already has provided U.S. EPA with information responsive to this Request. In addition, see Response to Request No. 4.

7. furnish all information which indicates that Thallium or Tellurium may be present in the waste dump.

Response: See Response to Request No. 4.

Stephen W. Holt

N

April 7, 1983

Mr. Robert C. Sharpe
Enforcement Programs
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Granite City, Illinois Lead Facility

Dear Mr. Sharpe:

I apologize for not having sent the documents as soon as I had hoped when I wrote you on March 10th. Enclosed are the following documents:

1. A copy of an excerpt from the minutes of the meeting of the Board of Directors on September 22, 1932. These minutes, a testimonial upon the death of Edward R. Hoyt, describe the history of the Hoyt Metal Company from its inception in 1876. You will note that the Hoyt Metal Company was sold to the United Lead Company in 1903; The National Lead Company became a stockholder, possibly a controlling stockholder, of the United Lead Company in 1906. NL actually took over the Hoyt plant on July 1, 1928.

2. A copy of the minutes of a special meeting of the Board of Directors of National Lead Company on December 11, 1902. These minutes authorized the officers of the company to purchase the United Lead Company from Thomas Fortune Ryan, Daniel Guggenheim and H. H. Rogers. This is the authorization and contains a form of the agreement referred to above.

3. 82 pages of xerox copies of index cards containing lists of capital appropriations approvals. The first year listed is 1945; the last year is 1978. Significantly more detail and smaller purchases are reported in the earlier years; plant appropriation authority was raised over time, and thus the number of items requiring corporate approval diminished. These documents provide a variety of information about equipment utilized, products manufactured, environmental controls installed, and the like. We have searched our files for the actual appropriation requests and approvals, but these cannot be found.

NL Industries, Inc./Office of General Counsel
1230 Avenue of the Americas, New York, N.Y. 10020 Tel (212) 621-6400

NL 184144

EXHIBIT Montanari 5 7/28/93 MR

EXHIBIT A

EXHIBIT G

4. 26 pages of xerox copies of records transfer lists. A review of these documents will indicate a part of the problem involved in identifying old records. They are not segregated by plant; rather, by the corporate organizational unit generating the document. Moreover, the lists are not completely accurate. Many of the boxes were transferred from plant to plant, and all were eventually collected in the basement of an office building in Hightstown,N. J. The basement was flooded at one time some years ago, and many of the documents were repacked in new boxes without adequate relabeling. The total inventory of boxes in the basement, which would have to be searched for any document not found in the referenced location, is many thousands. In connection with discovery proceedings in certain litigation, it was found that almost one-third of the references are inaccurate. Nevertheless, we will pull any boxes that you wish us to review and will make the records available to you for inspection (if they do not contain privileged material).

5. A page produced in the course of the sale to Taracorp, listing customers as of July 22, 1979. We request that this information be kept confidential, since it might be a trade secret of Taracorp. We understand from Taracorp that they have furnished you with a complete copy of the sales agreement; if this is not the case, please let us know, and we will make a copy ourselves.

Interviews of present and former employees have disclosed the following information, which is not capable of verification through documents, but is believed to be accurate.

During World War I, shell making facilities were installed at the plant. These were later converted to pail and drum manufacturing; these containers were filled with white lead. Shell making may have been resumed during World War II. The so-called steel package facility, probably this container manufacturing operation, was sold in or about 1970. There is or was a rolling mill at the facility, casting facilities for shot, pipe making facilities, and probably facilities for manufacturing other lead plumbing articles, such as traps, valves, etc. The shot tower was installed many years ago, and either rebuilt or renovated in or about 1965. We have no reason to believe that there ever was a reverbatory furnace at the facility, and we have been unable to find any indication that there was ever a hole dug under what is now the slag pile, and filled either with slag or other materials. We have no knowledge of any material other than plant products, by-products, raw materials, or intermediates ever having been disposed of in the slag pile, with the exception of a presently unverifiable rumor that a small amount, in a drum, of thallium or material with a similar sounding name may have been disposed of there at some period in the relatively distant past.

I am advised that the person with the best information about the facility is Phil Musill, former production manager, who retired in 1968 and supposedly is still residing in the neighborhood.

As you can see from the above, there are a variety of "leads" which may be pursued with greater or less chance of developing relevant new information. Please advise the order in which you wish us to proceed.

Very truly yours,

William R. Brenner
Group Counsel

WRB:ej
Enclosures

bc: F. R. Baser)
W. P. Cleyes)
D. W. Ervin) w/o encl.
J. Harper)
R. L. Losey)
W. R. Weffenstarf)

BC 186146

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC., :
Plaintiff, :
v. :
COMMERCIAL UNION INSURANCE COMPANY, et al., :
Defendants. :

(Videotape)
Deposition of:
MICHAEL H. COVER

TRANSCRIPT of testimony as taken by and before STEPHAN S. ZEITLIN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the HYATT HOTEL, St. Louis, Missouri, on Wednesday, November 18, 1992, commencing at 2:00 in the afternoon.

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department -- the pipe department -- every department that they had created it.

MR. FINK: Can you read the last answer back.

(The answer was thereupon read by the reporter as above recorded.)

MR. FINK: Thank you.

Q. Is the lead dust you're referring to, is that the same as dross or is that something different?

MR. DASSO: Objection to form.

A. It's basically dross.

Q. Does dross come in more than one -- withdrawn. Is there more than one kind of dross?

A. Well, you're going to have dross with arsenic in it or tellerium or thalium -- antimony. Dross is the scum off of metal and whatever's been added to that metal is going to have those other impurities in it, too.

MR. DASSO: Objection, move to strike, foundation.

Q. And this dross you just referred to -- this is the type of dross that you would see --

A. Yes.

Q. -- around the plant?

A. Yes.

MR. DASSO: Objection to form.

Q. Was there dross or lead dust on the ground around the plant?

A. Yes.

Q. Did you observe that?

MR. DASSO: Objection to form -- leading.

A. They used to take the dross in these hoppers outside of the -- or it was part of the dross department, but it was outside -- and dump it in these open bins and there had been maybe four or five tons of it.

Q. The dross department was -- withdrawn. Was the dross department in a building or outside?

A. Both.

Q. Let's talk about the part that's outside. Where was it located at the plant?

A. It would have been south of the dross department and east of the dross department.

Q. And how would you describe this

Q. Was there a furnace in that building?

A. Kettles.

Q. There were kettles?

A. Right -- no furnaces.

Q. And what would be in the kettles in the britania mill?

MR. DASSO: Objection to form.

A. It could be lead with antimony -- lead with tellerium -- lead with thalium -- lead with tin, lead with arsenic.

Q. Now, at the britania mill did they produce items that -- did they make things there or does they just do smelting and recycling?

A. No. They made -- made a product.

Q. And what was the raw material that they used to make that product?

A. The basic material was lead.

Q. Was it raw lead or was it recycled lead?

A. It was -- it had been refined.

Q. And where was it refined?

A. In the A Building or the B Building. I'm not sure which.

A. This. (Witness indicates.)

Q. The slag storage area you're referring to is the dump?

A. Yes.

Q. It was just scooped up from the dump area and taken off site?

A. Uh-hum.

Q. And you observed that?

A. Yes.

Q. How did they do that? Did they use --

A. A bulldozer.

Q. A bulldozer? And they'd load it into something?

A. Tandem trucks.

Q. And when did this occur?

A. In the late '70s or early '80s. I'm not sure which.

Q. Okay. Now, aside from the slag that was brought to that dump -- are you aware of anything else that was placed in that area?

A. Battery hulls.

Q. What's a battery hull?

A. The case of a battery.

Q. A battery casing, for example?
A. Car battery, yeah.
Q. Do you know what those were made of?
A. Some were made out of plastic, some were made out of a tar bases.
Q. Anything else that you observed there?
A. They would -- I know they buried stuff there like thalium in concrete drums.
Q. Thalium, did you say?
A. Thalium -- yeah.
Q. In concrete? I'm sorry. Is that what you said?
A. Yeah, they'd put it in a 55 gallon drums and take it out and pour concrete around the drums.
Q. What is thalium?
A. It's a metal -- a toxic metal.
Q. Did you see them do that?
A. Did I see them do it? No. I just knew about it being done, but I did not actually see it.
Q. How did you come to know that?
A. It was common knowledge.

Q. Did anyone specifically tell you?

A. Yeah.

Q. Who?

A. John Brown, Roy Brown, because I think they were the ones who were doing it.

Q. Are they supervisors?

A. No, they were -- they worked in the maintenance department.

Q. Now, you said this thalium in concrete. What exactly was that that they did?

A. Well, they'd take the thalium, put it in 55 gallon drums, take it out to the dump, dig a hole, pour concrete around it, and then fill it back up.

Q. Okay. Now, in addition to this thalium -- do you know of anything else that was brought to the dump over there or placed in that area?

A. Anything they considered scrap, arsenic.

Q. Was arsenic considered scrap?

MR. DASSO: Objection, move to strike, foundation.

A. It was in dross.
Q. Was dross brought to the dump?
A. Yes.
MR. DASSO: Object, move to strike, foundation.
Q. Where was it -- from what location did the dross originate that was brought to the dump?
MR. DASSO: Objection.
A. It could have been from any department.
Q. Did you observe that?
A. Dumping it on the -- no, not that I can recall.
Q. In addition to arsenic and the thalium -- anything else that you know that was brought or placed on the dump area?
MR. DASSO: Objection, foundation.
A. Tellurium.
Q. What is that?
A. It's a metal. It's used in processing lead depending on what kind of lead you want to produce.
Q. Anything else?

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC.,	:	(Continued) Videotape
Plaintiff,	:	Deposition of:
v.	:	MICHAEL H. COVER
COMMERCIAL UNION INSURANCE COMPANY, et al.,	:	
Defendants.	:	

TRANSCRIPT of testimony as taken by and before STEPHAN S. ZEITLIN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the HYATT HOTEL, St. Louis, Missouri, on Wednesday, November 19, 1992, commencing at 9:05 in the forenoon.

- - - - -

Q. Now, we talked yesterday about dross. Is there more than one type of dross?
A. Yes.
Q. Can you identify, describe the different types of dross?
MR. DASSO: Objection, foundation.
A. Well, there's lead dross, there's antimony dross. I guess, you'd call any metal that you melt is going to create a dross; arsenic dross, thalium dross, tellurium dross, a lot more I can't even name.
Q. Now, this dross is produced by the melting of metal?
A. Yes.
Q. Is anything else produced by the melting of metal?
A. A lot of fumes and smoke.
Q. How about mat?
A. How about what?
Q. Mat. Do you know what mat is?
A. I've heard the term, but I can't remember what it is.
Q. These wildcat strikes that you

A. Could have been Bill Crake, could have been Paul Fowler, could have been Jeff Malone. Over the period of time I worked there they probably had 20 foreman in that department off and on.

Q. I'm sorry. Were you finished?

A. Off and on.

Q. Were you aware of slag ever being taken off the plant?

A. Yes.

Q. When was that done?

A. In the late '70s they had tandem trucks come in, just truckload after truckload was hauled out, slag and battery hulls, whatever the bulldozer scooped up.

Q. Did you have an understanding of where it was being taken to?

A. I didn't know where it was going. I had a suspicion, but I didn't know.

Q. Did you ever have any conversations with anyone in management about that?

A. Not that I recall, not that I recall anything.

Q. You mentioned thalium. What

operations was thalium used in?

MR. DASSO: Objection, foundation.

A. The only place I know it was used was in the brit mill.

Q. And what was it used for in the brit mill?

MR. DASSO: Objection.

A. It was added to the lead to make some type of exotic lead. I don't know.

Q. Did you ever observe thalium being used in the brit mill?

A. I've seen thalium dross, yes.

Q. And where did you see the thalium dross?

A. Next to the kettle in the brit mill.

Q. What does thalium dross look like?

A. Just like regular dross. It's black.

Q. How did you know it was thalium dross?

A. Because I heard them talking about it. The guy was wearing a respirator when they were skimming the kettle off.

Q. What, if any, operations was

arsenic used in?

MR. DASSO: Objection, foundation.

A. It was used in the A Building quite a bit. It's used in lead that you drop shot with, shot lead, and they add it in the A Building to make the desired consistency that they needed for shot. And it was probably used in other areas, too, but I don't know for sure what other areas.

Q. You testified that arsenic was present in the dump area.

MR. DASSO: I don't think he testified that.

A. No, I didn't testify to that. I might have said there probably was, because I'm sure there was, but --

Q. Why do you think there may have been arsenic in the dump?

MR. DASSO: Objection to form, calls for speculation.

A. Because it was basically everywhere. I mean, throughout the B Building it would be spilled in the dross. Eventually some of it would find its way to the slag pile.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC.,

Plaintiff,

v.

COMMERCIAL UNION INSURANCE COMPANY, et al.,

Defendants.

Deposition of:

MICHAEL ECONOMY

TRANSCRIPT of testimony as taken by and before STEPHAN S. ZEITLIN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the Quality Inn, 475 North Bluff Road, Collinsville, Missouri, on Monday, September 27, 1993, commencing at 10:05 in the forenoon.

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or emissions coming out of the baghouse?
A. The baghouse, the only time I ever seen anything coming out of the baghouse is when it would catch a fire sometimes.
I don't know what caused it, but they had bags or something in there that would catch on fire, filters or something, and it would smoke.
Q. And what would that smoke look like?
A. It really wasn't a black smoke. It really wasn't black smoke; more like a yellowish looking smoke.
Q. Are you familiar with the chemical thallium?
A. I've heard of it.
Q. Was it used anywhere in the plant's operations?
A. About the only one I can remember that was always referring to thallium lead was Ralph Monken. And what they used it for, I have no idea.
Q. Are you aware of thallium being disposed of on the plant ground anywhere?
MR. LEIBENSTEIN: Objection,

lack of foundation.

A. No. I really don't know too much about that.

Q. You stated earlier that you were familiar with the slag pile. Is that correct?

A. That's right, that's right.

Q. To your knowledge, was there ever thallium disposed of in the slag pile?

MR. LEIBENSTEIN: Objection, lack of foundation.

A. I really don't know if they disposed of it up there or not.

Q. Do you recall seeing any service or work orders regarding the transporting of the thallium?

A. Oh, yes. When I was up with Charley Sparks, I received orders to dispose of so many barrels of thallium lead.

Q. Do you know who filled out those orders?

A. Ralph Monken. He was the one that ordered them, that he wanted them disposed of. And we would never have more than four -- there'd only be two, three, four,

something like that, a small amount.

Q. Did the work order specify the manner in which the thallium was to be disposed of?

A. No, it didn't. He just put down that he had so many barrels of thallium lead to get -- to be disposed of.

Q. Did the maintenance department carry out the disposal of the thallium?

A. What was that now?

Q. Was the maintenance department responsible for that?

A. Yeah. That was their responsibility, to pick it up. But like I say, it wasn't an order that came in every week or every day of the week. It was just every now and then.

I couldn't tell you how often it was, but it was -- I think it took quite awhile to fill up one of them barrels.

Q. Do you know what happened to the barrels of thallium that were picked up by the maintenance department?

MR. LEIBENSTEIN: Objection, lack of foundation, asked and answered.

A. As far as I know, they took them and

buried them in the slag pile.

Q. When the work orders came in regarding the disposal of the thallium, who would give out that assignment?

A. Charley Sparks.

Q. Would you give the work orders to Charley Sparks?

A. I would give it to him. I gave it to him because it was one of those orders that wasn't classified as rush.

Q. Are you familiar with the Environmental Protection Agency or the EPA?

A. I've heard about it, but I'm not too familiar with it.

Q. Do you recall people from the EPA ever coming to visit the Granite City plant?

A. Yeah. I remember they was there. I remember when they was there. It seemed to me it caused quite a bit of turmoil around there. Different things had to be cleaned up.

Q. Do you recall what things had to be cleaned up because of these visits?

A. Well, they started out with men eating

but dirt. And that was it.

Q. Now, you were talking a little earlier this morning about thallium. And you used the phrase thallium lead. Could you explain what thallium lead is?

A. That's what they usually called it out there was thallium lead. The only time I ever seen it out there was big sheets of it.

And from what I understood, thallium was supposed to give it more strength or something, to give lead more strength. And they used it for submarine plates or something.

I don't know what it was, but that's all I ever heard them refer to it out there as, thallium lead.

Q. Did anybody tell you that thallium was added to the lead as part of the processing?

A. No, no. I didn't -- they never did say it. I just assumed that they -- it came in that way, you know, and they had it shipped in. But I never heard of anybody making thallium lead out there unless it would have been Monken.

Q. First, how do you spell Monken's name?

A. M-o-n-k-e-n.

Q. Okay. His first name is Ralph?

A. Ralph, that's right.

Q. What was his job?

A. He made, I seen him made, he made those odd metals. I can't -- I can't recall what they used it for, because it wasn't like solder. What his products were for -- I can't remember what he made lead for. I can't remember what his department was for. But he was the one that had the odd mixtures, you know, where it wasn't, you know, like 100 percent lead or anything like that.

Like, he had copper in there. He'd add copper to it. I can't remember what -- his would be more like an alloy. He added copper to it. And he might have had thallium in his department. I don't know. And he made stuff like silver lead, because I know he had the silver in his safe over there. He was -- yeah, he was more like mixed metals is what they called him, mixed metals.

Q. Is that what you think the plant department was called, mixed metals?
A. I think it was mixed metals, because he took care of most of the alloys like silver lead and copper lead, stuff that had more impurities added to it.
Q. Do you know where he is now?
A. Whose that?
Q. Mr. Monken.
A. Where Ralph Monken is now?
Q. Yeah.
A. I think he died about a year or two ago.
Q. Both Mr. Cox and Mr. Monken died about a year or two ago?
A. Yeah. Cox is dead, too.
Q. Do you recall Mr. Monken telling you anything else about thallium lead or what they did with the barrels of thallium?
MR. LEIBENSTEIN: Objection to form.
A. No. I don't know where he got it from or anything else. The only thing I know, he got highly upset if it wasn't taken care of

when he called. And like I say, I didn't consider it a rush order.

And we put it down there and we took care of it when we got to it like a couple of days after. And, oh, he'd get mad because it had to be something to take care of right now.

Q. Let's let the record be clear on what it is.

A. The written work order that I had, he would call me for the work order to dispose of three or four barrels of thallium lead that we had. And if I didn't take care of it immediately, he was highly infuriated.

Q. Where would the barrels be in his department?

A. In his department. He'd have it in his department. Because like I'd say, he'd have it over there and it would be sealed and everything with the top on it in a 50-gallon drums.

Q. 55-gallon drums?

A. 55-gallon drums, yeah.

Q. Could you see in what manner they were sealed?

A. With a regular band top on them like they seal the 55-gallon drums.

Q. Uh-hum. What color were the barrels?

A. Seemed to me like it was yellow and blue. You know, blue with a yellow stripe around them.

Q. Uh-hum. Were they encased in cement or anything?

A. No. When I seen them, they were just setting on the floor.

Q. This afternoon you were talking earlier about rush orders. And everything else, I guess, would be non-rush orders, right?

A. Because like I say, there was nothing to rush about, whenever we got to it.

Q. So it was Charley's job to designate what was a rush?

A. Yeah.

Q. And how would he -- would he just say --

A. Like I says, if they called me on the telephone, they wanted a rush, I would put rush on the top of it and give it to

Charley.

Q. Okay. So the suggestion was made when an order was first brought in that they would be requesting a rush?

A. Yeah. When they would request rush, I would put rush written on the top, yeah.

Q. Would Charley put rush on something?

A. Yeah. Sometimes he would take care of it and take it out to the plant there and make sure it would get done right.

Q. So in what manner would your department receive the work order for the removal of the thallium? Would it be over the telephone or on a piece of paper?

A. Telephone, usually telephone.

Q. Telephone from Mr. Monken?

A. Telephone from Monken, uh-hum.

Q. And sometimes you would receive the telephone call?

A. I would receive it the biggest part of the time, yeah, because I was up there all the time.

Q. And then who would fill out the written work order?

A. You mean write it up?

Q. Yeah.

A. I wrote it up. I wrote everything up and put the date and time on it. And if it was a rush, I wrote rush at the top and I'd give it to Charley.

Q. Okay. So did Charley ever give you any instructions whether the removal of the thallium barrels was to be considered rush?

A. Now, I never did. The only thing I ever sent out to him, I said Monken wants this rush. And he said when we get time. And that's the only thing he ever said to me.

Q. And then Monken would call sometimes after the order had been given and he would say why are these barrels still here?

A. Yeah, that was Monken. And like I say, he'd raise sand because they weren't moved.

Q. And did he ever tell you why he felt it was important to get to it right away?

A. No. He never did say. He never did

say. The only thing is it was a thing that was priority; it had to be moved.

Q. Has anybody at the plant ever told you why thallium would be particularly important to get rid of right away?

A. No, no, never did say anything. Like I say, I just didn't ever think about it, because nobody, nobody ever attached getting anything from it.

Q. Have you ever heard the phrase black death?

A. Yeah. I've heard that.

Q. What have you heard?

A. It pertains to coal miners. That's the only time I ever heard of that.

Q. That's blank lung?

A. Yeah, black lung is about the only thing I've ever heard about.

Q. How would the thallium barrels be picked up?

MR. LEIBENSTEIN: Objection, lack of foundation.

A. As far as I know, they would send a forklift over there or a pay loader.

Q. Would you do it yourself?

A. No, no, no. Charley had one of the laborers down in maintenance department go over and get it.

Q. Okay. So while you were working at maintenance, you basically stayed in the maintenance building?

A. Yeah.

MR. LEIBENSTEIN: Objection as to form.

A. Yeah. I stayed in the maintenance building all the time.

Q. Okay. So what instructions would you give the laborers for removal of the thallium barrels?

MR. LEIBENSTEIN: Objection.

A. I didn't give them no instructions at all. Charley took care of that. Charley took care of that.

Q. Uh-hum. Do you know what instructions he gave them?

MR. LEIBENSTEIN: Objection, lack of foundation.

A. I sure don't. I sure don't.

Q. Did you ever make any observations where the thallium barrels went?

A. No.

MR. LEIBENSTEIN: Objection, lack of foundation, asked and answered.

A. I sure didn't.

MR. BURGER: Off the record.

(Discussion off the record.)

Q. Did anybody ever tell you or did you ever make any observations as to whether the thallium barrels were disposed of on the site or taken off site somewhere?

A. No, I sure don't. Offhand, the only thing I heard them refer to was they took it up to the slag pile or they called it the dump. They said they took it up to the dump.

Q. Who do you recall saying that?

A. I think Charley Monken one time. Well, we got your barrels. And we took them out to the dump. And that's the only thing I ever heard it referred to as.

Q. You said that after the Environmental Protection Agency came out to the site, there was some changes in the smoking and eating by the workers. What were you referring to?

A. They would eat out in the plant and

whether in fact it should be rushed?
A. Right. And he got the work order done.
Q. You talked earlier about the disposal, the work orders regarding the thallium. How often was there a work order about the spills of any of the thallium?
A. Gosh, they were few and far between. Like I say, it wasn't anything consistent. I would say maybe two, three times a year if that much.
Q. Mr. Monken would call in with the work order?
A. Yeah. He'd call over.
Q. When he called in with the work order to dispose of the thallium, the thallium lead, did he tell you whether it should be a rush order?
A. He wanted them taken right now.
Q. Did he specifically tell you that it should be a rush order?
A. Yeah, because he wanted them disposed of.
Q. Did he tell you why he wanted it to be disposed of?

A. No, no.

Q. And you would communicate, you would tell Mr. --

A. Sparks.

Q. -- Mr. Sparks about the order?

A. Yeah, uh-hum. As soon as I got it, I wrote it and I'd give it to Charley.

Q. What did he say when you gave him that order?

A. Well, he never say anything, just look at it, look around and see who was available. And that was the last I heard or seen or heard of it.

Q. Did Mr. Sparks consider a request from Mr. Monken to dispose of the thallium lead as a rush order?

A. I guess it must have happened between themselves. As soon as he got that order, he was supposed to, you know, get rid of it. But Monken usually called me and told me that for my benefit that it was a rush order, like I didn't -- like I would forget or something. But I think between him and Charley, that was a thing that had to be taken care of.

Q. Did Mr. Sparks try and get rid of it, try and dispose of it in a rush?
A. If he had anybody available. But like I say, sometimes it sat there two or three days, sometimes longer.
Q. How many times did it sit there two or three days before it was disposed of?
A. What was that again now?
Q. How many times did it take two or three days before the thallium lead was disposed of?
A. Two times that I know of.
Q. Most of the times was it disposed of right away?
A. Yeah.
MS. GERBER: Objection to form.
Q. When were those two times it was not disposed of?
A. I sure don't remember. I sure can't remember.
Q. Can you recall why it was not disposed of those two or three times right away?
A. Oh, more than likely the men were all tied up on another job where they would have

a major breakdown or something and --

Q. If the men would not have been tied up or there was not a major breakdown --

A. They would have been disposed of.

Q. After you gave the order to Mr. Sparks, was it Mr. Sparks who called the laborers to dispose of the --

A. That's right.

Q. Do you know who he called?

A. No, not right offhand.

Q. Did you ever see the thallium lead while it was being disposed of?

A. No.

Q. You mentioned earlier that the thallium lead was kept in a 55-gallon barrel.

A. That's right.

Q. When did you see that?

A. I seen that over in Ralph Monken's department.

Q. When you saw that, when you saw the thallium lead in the 55-gallon barrels, were they being disposed of at that time?

A. They was waiting to be disposed of, because Ralph had said to me that's your job, to get them out of here. And that's all he

said to me. That's why I knew they was thallium lead.

Q. Do you know where Mr. Sparks told the laborers to dispose of the lead?

A. What was that now?

Q. Do you know where Mr. Sparks told the laborers to dispose of the thallium lead?

A. No. The only thing I ever heard them say was the dump, dig a hole in the dump. That's all I remember him saying.

Q. Do you remember when he said that?

A. One time when he was talking to somebody. He told them to take a pay loader and dig a hole in the dump for the thallium lead. And that's all --

MR. BURGER: I'm sorry. Dig a hole in the dump?

THE WITNESS: Yeah, dig a hole in the dump.

MR. BURGER: The dump.

Q. Do you know what he was referring to when he said the dump?

A. No, I don't. That's all I can tell

you is dig a hole in the dump.

Q. When something was disposed of on the slag pile, was it necessary to dig anything?

A. No. They just usually went up there and dumped it.

Q. When Mr. Sparks told the laborers to dig a hole in the dump, do you know if he was referring to the slag pile or not?

A. I don't know if he was referring to the slag pile. Like I say, everybody referred to the slag pile as the dump. But like I say, when Charley Sparks was referring to the dump, I don't know what he was referring to. But everybody there referred to the slag pile as the dump.

Q. I'm sorry. I'm a little confused. He would tell you to -- he told the laborers to dig a hole in the dump?

A. That's right.

Q. Generally when he would tell somebody to take it to the dump, and when he would say to take it to the dump, he referred to the slag pile, would he say to dig a hole?

A. No, no, just when he was referring to the thallium there. He had said take a pay loader and dig a hole.

Q. Other than with the thallium, do you remember any other times that Mr. Sparks would tell the laborers to dig a hole when they disposed of something?

A. No, no.

Q. Other than this conversation that you overheard between Mr. Sparks and the laborers, did you have any other way of knowing about what happened to the thallium?

A. No, I sure don't.

Q. When you were growing up and lived near National Lead, did you have any reason to think that the slag pile was dangerous?

A. No, never did.

Q. Did you ever have any reason to believe that the slag pile was dangerous?

A. No, never have believed that.

Q. Going back to the assay test for a minute, except for the fact that for the incoming materials there was less lead than what you had put down --

In The Matter Of:

NL INDUSTRIES v. COMMERCIAL UNION INSURANCE
Civil Action No. 90-2125 (HLS)

Albert W. Orr
August 17, 1993

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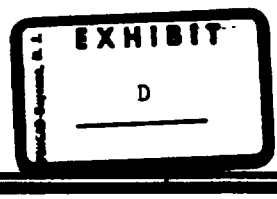

worked at the plant there were any government agencies that were concerned about when the plant went to atmosphere?

A. No.

MR. BENSINGER: Objection to form.

A. That's something I don't think they would have within our kin, within our area.

Q. When you say "our kin," you mean within the purchasing area?

A. Yeah.

Q. Are you aware of whether or not the purchasing department ever purchased thallium?

A. Yes. I believe we had it purchased by New York for us.

Q. And what is thallium?

A. It's a metallic element that was added to lead in, I'm going to say, a rather small percentage, I don't know if it was a 90/10 or 95/5, which they sold to various -- I don't know if it was various or if they had even a single customer. It must have been a specialized use.

Q. And when thallium was purchased

by New York, do you know who in New York was responsible for purchasing it?

A. I would imagine Jack Jennings or someone. You know -- they had their own metal buyers. He used to work for Bill Welch, Phil Rupert and that section, and he had some assistance. I wouldn't know the individual who purchased it. Our function was merely to say, hey, we're getting low, we need another thousand pounds or 500 pounds or whatever.

Q. Are you aware whether or not there was any thallium waste generated at the plant?

MR. BENSINGER: Objection to form.

A. Well, in smelting, whether it be a pot of lead or aluminum or copper or whatever, there's an oxide that forms across the pot and this is called dross. And in a lot of cases the drosses from the pots or the mixed metal around the blast furnace would be skimmed off and be put back into the blast furnace. This material, that never happened.

Q. I'm sorry. Which material?
A. This, the thallium. The thallium dross did not go back into the blast furnace.
Q. Okay. Where did the dross from the thallium pots go to?
A. Well, I believe it was accumulated in a secured drum.
Q. And why was it placed in a secured drum instead of going back to the blast furnace?
A. Pardon?
Q. Why was the dross from the thallium operations placed in a secured drum instead of going back to the blast furnace?
A. It can be toxic. And I'm thinking it's either air or moisture that does it to it. It can be deadly.
Q. And how did you develop your understanding that thallium is toxic?
A. From Carl Alford, a chemist.
Q. Was this during the time when you were at the plant?
A. Oh, yes. We made daily trips through the plant to talk to people. You know --

what's your outlook on -- your need for this, how's so and so's load working, any complaints about this, how can we be helping you, things like this.

On a daily basis, we talked to basically everyone out in the plant. And in the course of several times a year, the thallium dross would be disposed of by sealing it, welding it shut in a drum.

Q. And where would the drum containing thallium dross be taken?

A. Well, it was taken over to a slag pile. And a framework was built around this, another steel container, which concrete was poured all along this thallium drum and it was melted shut. As far as I know, those things are still in there.

Q. When you say that you formed an understanding of how thallium was toxic, what was your understanding of the nature of the thallium toxicity?

MR. BENSINGER: Objection to form.

A. I don't know. I mean, I said, "Hey, is this bad?" And then Carl Alford said,

"Yes, it could be deadly." And everybody got kind of quiet when you asked them certain questions.

Q. Are you aware of whether or not any workers at the Granite City plant ever suffered any injuries from thallium?

A. Not to my knowledge. Now, this may go back to the fact that they may have had careful controls on it when they were using it or they had to keep any moisture from getting in.

In this reference, can I ask a question here? Have you people talked to Charlie Sparks?

Q. Awhile back.

A. Yeah, he basically was the one who supervised this preparation. You're talking thallium. Is it all right not to answer a question?

Q. What do you mean by "not answer a question"?

MR. BENSINGER: Let's -- we should go off the record unless -- in other words, are you -- let's go off the record a second.

(Discussion off the record.)

Q. When did you first become aware that thallium was used at the Granite City plant?

A. I think when the request came up for us. I'm going to say, you know, early on this went on, especially after Quante left.

Q. Are you aware of whether or not Granite City had any interactions with an organization called American Smelting in Chicago regarding thallium?

MR. BENSINGER: Objection to form.

A. Yeah.

Q. And what is your understanding regarding that interaction?

A. Rudy Sabatino came to me. And I'm talking about late in my years there. For some reason they had a material that was out of spec to the consumer and it was shipped back into the plant in bar form. And Rudy came up and said, "We're not going to process this here. I want it out of St. Louis. Sell to a scrap dealer. Make it an attractive price so he'll buy it. And make him swear in

blood that he will ship it elsewhere."

I believe I sold it to Ace Waste with the stipulation. And he said, "Where did you ship it?" I said, "I shipped it to American Smelting Association." I knew it went up there. Carl Alford knew it was up there. And the interesting thing was they were supplying metals to the automotive body industry. If you're familiar with this, they make a special body solder that they wipe joints with.

And the salesman would go out. And samples of customer's material, the thallium, showed up in the third shipment of Federated material.

MR. MC CARTHY: Can I get a time frame of that? Do you have the approximate time frame?

THE WITNESS: I don't recall on this. I'm going to say a couple of years. Rudy was there. When did Rudy come in?

MR. MC CARTHY: Okay. That's what I wanted.

MR. BENSINGER: Can we clarify concerning Ace Waste? Would you read back

the portion of his answer where he mentioned Ace Waste.

(The answer was thereupon read by the reporter as above recorded.)

MR. BENSINGER: I want to be sure I understood your answer. Was it Ace Waste who shipped to American Smelting?

THE WITNESS: Yes. In other words, he came over and picked it up at our plant at the Granite City plant.

MR. BENSINGER: Ace Waste?

THE WITNESS: Ace Waste.

Q. When Rudy Sabatino explained that they were not going to process the bars containing thallium at the Granite City plant and that he wanted it sworn in blood that it would be shipped elsewhere, were you aware of why Rudy Sabatino felt this way?

A. No, I was not.

May I answer another point? When he said, you know, was it shipped to Ace Waste, as I recollect, he had an empty trailer there in the plant where he shipped in some other scrap. And it was easier to get it out in a hurry by just weighing his

truck empty.

So we had loaded the material and shipped it out. That was one of the reasons he picked up; plus he could keep his mouth shut.

MS. CHILTON: Let's take a quick break.

(A recess was taken.)

(Exhibits Orr 1 through 4 were received and marked for ID.)

Q. Mr. Orr, I'm going to hand you what has been marked as Exhibit 1 to your deposition. Have you ever seen this before?

A. Well, yes. I mean -- yes.

Q. Is this the subpoena you received in this case to appear for your deposition today?

A. It's a copy of the subpoena.

Q. Okey doke. So it's your understanding that you're here today pursuant to a subpoena?

A. Yes.

Q. Now, I'm going to hand you what has been marked as Exhibit 2 to your deposition, which is an article that you

United States government.

MS. CHILTON: Objection to form. I'm sorry. Did you get my objection?

MR. BENSINGER: Did you object to the form?

MS. CHILTON: Form and vagueness.

A. I don't think there was anything out of order, either one of them. Here were some old records.

And the one time when I was in Brazil I found records about Tommy Harmon. Anybody here know about him? And I kept them for myself.

Q. Now, you had mentioned earlier today thallium.

A. Yeah.

Q. That's an element. Is that right?

A. That's right, a metallic element. Now, prior to my coming to the Hoyt plant, I didn't know that. That product wasn't made at Kirk.

Q. Now, this product was present at Granite City. And correct me if I

misunderstand, that it was used with lead. Is that correct?

A. Correct, alloyed with lead.

Q. Alloyed. And what does the process of alloying involve? What is an alloy?

A. Basically you are taking an element, let's say lead, you're putting it into a kettle and it's molten.

Q. Lead is molten?

A. Lead is molten. I'm assuming -- well, thallium was a small element, a small portion of the kettle. Is that what I should have said?

MS. CHILTON: I'm sorry?

A. A small portion of the alloy. Like I said, if it's a two percent alloy, you're going to have, a 10,000 pound kettle, 9,800 pounds of lead, 200 pounds thallium.

Q. Apart from conversations you had with Carl Alford, did you have any other basis for knowing about the toxicity of thallium was?

A. Well, from a standpoint of judgment, when you see this drum being welded shut and

being placed inside a concrete container, and you're in the metal business, you know that there's not just peanuts in there.

Q. And do you recall a specific conversation with Carl Alford on this subject?

A. I think the first time I saw it, I asked him why are they doing this.

Q. Do you recall what he said to you?

A. And he was telling me it's very toxic in that particular form.

Q. And you're not aware of any injuries to NL or other personnel as a result of NL's handling of this product?

A. To my knowledge, no. And they handled that material they're putting in drums with kid gloves. Charlie Sparks the maintenance foreman literally did it single-handedly.

Q. Do you mean personally?

A. A man and himself.

Q. He did it personally?

A. Yeah. And he was there personally. And this happened once a year, maybe five times while I was there.

Q. So this isn't a regular ongoing occurrence?

A. No.

Q. This was an incident, excuse me, the encapsulation, if you will?

A. Yeah, was not a regular.

Q. Of this procedure occurred on occasion, and you would estimate approximately how many times in your tenure at NL?

A. Five to ten. Now, you're making a -- I think it was a smaller kettle. I used 10,000 pounds just off the top of my head. But say if it were a 4,000 pound kettle and even molten, how much dross are you going to get off that, 20 pounds?

And if you have this barrel, say a 30-pound barrel, 20 pounds can hold quite a bit of material. And it isn't something they made every day. It was random manufacturing, I guess, as required. So it would take a considerable amount of time to accumulate that barrelful. That make sense to you?

Q. And the barrelful would be

placed inside --

A. It would be welded shut.

Q. The barrel would be welded shut or the barrel would be placed in a container that would be welded shut?

A. No. The barrel itself would be welded shut first. And then it would be placed in pure concrete around it. And then it's encased in a steel case. I don't know if they used an old battery case or not.

Q. The barrel is welded shut, that's encased in concrete, and that's encased in steel?

A. I would think so. It was some kind of container that wasn't going to rust away, rot away, I should say.

Q. You're not sure it was steel, but some can kind of metal was a placed around the concrete. Is that right?

A. Yes.

Q. Is this something you witnessed?

A. Yes. I'm going to say at least on two occasions.

Q. You can recall two times when

you personally witnessed --

A. Yes. Other times you might see the case, the concrete being poured in there. And you're on your way. And they must have come over and finished it off later, but I didn't actually see it being placed.

Q. I see. But on two occasions you did see it?

A. I kind of watched the thing the first time, what the heck are they doing.

Q. And maybe on the two occasions you witnessed this container being placed -- and by "placed," do we mean placed in what's referred to as the Taracorp pile?

A. At that time it was the NL pile, yes. It was literally buried in there.

Q. It wasn't placed on the surface?

A. No.

Q. Did you witness it being buried?

A. First time, what are they doing, yeah. You know, I'm a nosey character.

Q. And the base of your knowledge as to the other times it might have been

placed on the Taracorp pile is your having witnessed the container --

A. That is correct.

Q. -- being made?

A. Uh-hum. No one made the statement, you know, we don't want this outside the plant. That was it.

Q. No one made that statement?

A. No.

Q. Now, you testified about an occasion on which you had a conversation with Rudy Sabatino about some material that contained thallium, correct?

A. That is correct. He initiated the conversation.

Q. He initiated the conversation with you?

A. (Witness nods affirmatively.)

Q. And this conversation related to certain material that NL had shipped out of the plant initially?

A. Yes, in metallic form.

Q. In metallic form. What does that mean?

A. In bar.

Q. A bar. And what is that material called?

A. Thallium lead.

Q. Thallium lead?

A. Uh-hum.

Q. And that bar was shipped to American Smelting in Chicago. Is that correct?

A. No, no. I don't know who the consumer was.

Q. Don't know who the consumer was?

A. No. The only thing I know -- oh, oh, I'm sorry, yeah. Eventually after we got it into the plant, that shipment of bar was shipped. Correct, you're correct.

Q. Well, my memory is only based on what you said here today.

A. I'm confusing when you manufacture it and ship it to a user, or when he said this has been returned by the customer, get it out of here.

Q. Okay. So let's just slow down and be sure I've understood correctly. In the first instance, NL produced a bar of

thallium lead?

A. Yeah, a quantity of it.

Q. And NL shipped that quantity of thallium lead to another party?

A. Correct.

Q. Do you remember to whom NL shipped the lead about which Rudy Sabatino was speaking to you?

A. No, I don't. I did not know who the consumer was.

Q. Who the consumer was?

A. Yeah.

Q. But Rudy Sabatino indicated to you in that conversation which he initiated that the bar of metallic lead or the -- excuse me, not metallic lead, the thallium lead had been returned to the Granite City site. Is that correct?

A. Yes. And I do not know for what reason.

Q. You don't know why the thallium load was sent back to Granite City?

A. No.

Q. Did you ask him?

A. No.

Q. Did he tell you?
A. No. Get it out of here.
Q. Those were his words to you?
A. Uh-hum. Get it out of town.
Q. In my notes I had an indication of American Smelting in Chicago.
A. Correct.
Q. With respect to this discussion.
A. Yeah. I believe I said I called Ace Waste. Is that in there?
Q. Yes.
A. And I told him I have this. And Rudy had said make it a cheap price, because the first thing the guy is going to say is why are you selling like this, you know. And I said, well -- Dave -- I said you have your reasons, I have mine. I need to get it out of town. And I want you to, whatever, make sure it leaves town. I asked where's it going to go. And he said it's going to American Smelting.
Q. So Ace Waste hauled it, if you will, to American Smelting?
A. They may have shipped it

commercially. I don't know. They either transported it or had it transported. I don't know if you want all the cases.

Q. Well, did you think that it was illegal to do this?

A. In metallic form?

MR. MC CARTHY: Objection to the form.

A. It didn't occur to me. If the customer to whom they were shipping had worked in-hand in a metallic form all the time, why would it be a problem.

Q. Well, was there some significance to the fact that Rudy asked you to get rid of this material?

A. I don't know if there was. Was it out of spec? I don't know.

Q. Well, was there anything --

A. Let me say this, immediately Rudy did not confide in me in any way, shape or form 100 percent of the time.

Q. You didn't get along with Rudy?

A. Mild words.

MR. MC CARTHY: Objection to the form.

Q. Do you have any reason to believe there was anything improper about this shipment of thallium lead?

A. I didn't at the time. And I still don't think there was. There could be any number of reasons why people do this. We had people when I was with Federal-Hewitt that would say our inventory is too high, boss says cut it. We take it back at bargain price.

Q. So you're not aware of this having any particular significance. Is that correct?

A. That is correct, other than I -- I always wondered why the heck did we have to get it out of here. Why couldn't we melt it again.

Q. Do you have any reason to believe there was improper motive in play here?

A. Not to my knowledge.

Q. Not to your knowledge?

A. No. I mean, material is being returned. Why he would say get this particular lot out of here and not a bar of

solder or a load of solder --

Q. You don't know?

A. I don't know.

Q. And you didn't ask?

A. And I did not ask. I didn't think I'd get an answer. The nicest thing you could do is go into Rudy's office, get the business done, and get out.

Q. During the time that you worked for NL, did NL at a certain point initiate a neutralizing process with respect to the battery decasing operation?

A. They should have. And if they did, I don't remember.

Q. You don't remember whether they did or they didn't?

A. I'm vaguely thinking that they did, but that's only because you put the idea in my mind.

Q. You have no independent recollection?

A. Correct. But there are means, you know, of -- you have an acid, take a -- I don't know if there has to be a way. Kirk, to the best of my knowledge, used to have

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC., :
Plaintiff, : Deposition of:
v. : JAMES RAINS
COMMERCIAL UNION INSURANCE COMPANY, et al., :
Defendants. :

TRANSCRIPT of testimony as taken by and before STEPHAN S. ZEITLIN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the Hyatt Regency, Union Station, St. Louis, Missouri, on Tuesday, September 7, 1993, commencing at 10:30 in the forenoon.

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EXHIBIT
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down the chute, it went to -- the only thing, I can't recall what its called, but it was made into a rope. And I was the puller that pulled it through; also rolled it up. And from time to time, we'd make five pounds -- take them from 50 pound rolls and make five pound rolls.

Q. How was your job packing lead wool different from your job rolling lead wool?

A. Well, packing it, you just simply take it from the time it was weighed and put it in a sack, tied the top of the sack.

Q. Approximately how big were the sacks of lead wool that you packed?

A. They were 50 pound.

Q. And what were the sacks made of?

A. We called it a gunny sack is basically the only thing I know that you can possibly call it. It's like a potato sack, only it's shorter.

Q. When you worked in the brit mill department, what type of products did you help produce?

A. We made organ pipe, music plates, other orders from other companies like six percent went to Dicky Graber for name plates on caskets. And we made graphite lead, battery plates, not the kind that goes in car batteries, but the huge plates about -- I think there's about five or six different sizes of those. We made thallium plates, one percent silver plates. That's pretty close to all I recall.

Q. Earlier you made a reference to six percent. Is this a product or --

A. Its chemical lead with six percent antimony.

Q. And I'm not sure I understood your testimony. The six percent lead was sent to make name plates on caskets?

A. Yes. Some of it was -- it went to other places. But, you know, that's the one that just came to mind.

Q. You described batteries that were not automobile batteries.

A. The plates, not batteries, just plates.

Q. Are you aware of what types of

batteries that these batteries plates that you made --

A. No. We sent them out, the plates bandied on a small skid.

Q. The one percent silver plates, are you aware of what those were used for?

A. My understanding was they were sent and hung in a vat for some sort of solution to run through.

Q. What was the thallium lead that you produced used for?

A. I'm not really sure.

Q. And what is thallium lead?

A. It's chemical lead and arsenic. It's got a certain amount of arsenic in it.

Q. What would you do in the brit mill when you would produce thallium lead?

A. Well, you basically put your chemical lead in the pot and melt it down. And then you take your -- the arsenic that came in little pigs about six inches long by about four inches, three and a half, four inches wide, about two inches thick, you put whatever amount it was that you need to make for that order in the pot. And when it came

together, you skimmed it and it flowed out.

Q. During the time you melted the lead, did you ever utilize any arsenic?

A. No.

Q. How did you become aware that arsenic was contained in thallium lead?

A. I put it in it. That was part of my, part of the job. Whenever I made up the pot of lead, just like if I made up organ pipe, there's certain things that went into organ pipe.

Q. When you would add arsenic in order to make thallium lead, what would you do?

A. You take it out of the crate and put it in the pot and wait for it to melt. And mix it again, stirred it with --

Q. How did you take it out of the crate?

A. With my hand. (Witness indicates).

Q. Okay. Did you use any tools to take it out of the crate and put it in the pot?

A. Just gloves.

Q. Aside from gloves, was there

any other type of clothing that you wore?
A. Well, when you poured -- when you worked in the pot area, you had an apron, you had a respirator, and you had what you call those spats, I guess you call them, you put over your shoes, the front part of your legs to keep them from getting burned.
Q. Did you measure the arsenic before you placed it in the melting pot?
A. No. It was pre-weighed. Each bar weighed so much and you knew.
Q. And do you remember how much the arsenic bars weighed?
A. No, I sure don't. They were quite heavy for their size.
Q. What did the arsenic bars look like?
A. They looked like lead, just to look at them. If you didn't have a chemical analysis, you would just think they were bars of lead.
Q. Are you aware of where NL got the lead bars containing arsenic from?
A. No, I have no idea.
Q. How did you come to an

understanding that these bars contained arsenic?

A. My boss told me.

Q. Did you have any other communications with your boss at the time who I believe you testified earlier was John Squires?

A. John Squires.

Q. Did you have any other communications with Mr. Squires about the contents or the materials that you were using?

A. No. He would make up the amount that you need for each kettle. He was responsible for making it up, the weight. And he would give me the sheet and I would weigh it up and put it in the kettle.

Q. During the time that you worked in the brit mill, did you use a respirator?

A. Yes, I did, when I was at the kettle area where we poured that.

Q. What was your understanding why you used a respirator in the brit mill area?

A. To keep from breathing the fumes from the pot, the lead fumes.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC.,
Plaintiff,
v.
COMMERCIAL UNION INSURANCE COMPANY, et al.,
Defendants.

Continued Deposition of:
JOHN W. ROPER

TRANSCRIPT of testimony as taken by and before STEPHAN S. ZEITLIN, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the WEST CHASE HILTON, 999 West Hyme Road, Houston, Texas on Wednesday, December 8, 1993, commencing at 8:15 in the forenoon.

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wasn't a metal division operation. It was a chemical plant.

Q. And do you recall anything else about the vice president of the chemicals division that asked that the report be destroyed?

MR. GALLIGAN: Objection, relevance.

A. Not really, except he left the company not too long after that.

Q. And do you recall the reason that the report was destroyed?

A. He obviously didn't like something. I was never made privy why.

MS. CHILTON: Let's go off the record for a minute.

(Discussion off the record.)

Q. Mr. Roper, do you recall any policies regarding the handling of thalium drosses during the time that you were at NL?

A. Thalium drosses?

Q. (Counsel nods affirmatively.)

A. Not really. Thallium is a heavy metal that is associated with lead and zinc in its natural state, but I don't remember

specifically anything.

Q. I'm going to hand you what we're going to mark as Exhibit 2 to your deposition, and ask you to take a look at this and see if it refreshes your recollection.

A. Uh-hum.

(Exhibit Roper 2 was received and marked for ID.)

Q. Mr. Roper, directing your attention to Exhibit 2, do you remember who AS&R is or was?

A. American Smelting and Refining Company.

Q. And do you recall why AS&R supplied thalium ingots to the Granite City plant?

A. Really don't know why. Can't remember why they purchased them or what they used them in; probably making up an alloy of some type.

Q. Mr. Roper, have you ever seen Exhibit 2 before?

A. Uh-uh, except when I wrote it, obviously.

Q. So is it your understanding that you authored Exhibit 2?

A. Uh-hum.

Q. I'm sorry. I'm going to have to ask you to --

A. Yes.

Q. Who is Mr. Eichorn?

A. He was the manager of the St. Louis region at the time, not the plant.

Q. And do you recall why you were writing to Mr. Eichorn regarding thalium drosses on or around November of 1971?

A. Because I found out that they were disposing of the drosses. And I suggested they do this, put them in concrete before disposal.

Q. And how were they disposing of the drosses?

A. They were just dumping them.

Q. Do you recall where the thalium drosses were being dumped?

A. No, don't have any idea.

Q. And do you recall if in fact Mr. Eichorn ever investigated who else besides NL could dispose of thalium drosses.

MR. GALLIGAN: Objection to foundation.

A. No, I don't.

Q. And do you recall what your recommendation was regarding disposal of the thalium drosses?

A. By placing them in concrete before disposal.

Q. And do you recall if you made a recommendation as to where the thalium drosses should be disposed?

A. No, did not.

Q. What was the purpose, if you recall, for recommending that the thalium drosses be placed in concrete prior to disposal?

A. So that they would stay where you put them.

Q. Directing your attention to the second page of Exhibit 2.

MS. CHILTON: And for the record Exhibit 2 appears to be a memo and then an attachment that bears NL's Bates numbering TX 500701 and TX 500702, does not bear defendants Bates numbering system. And I'll

note for the record that this was just recently produced and we haven't a chance to assign our numbering system.

What aspect of your job responsibilities in or around 1971 would cause you to make a recommendation regarding the handling of thalium drosses?

A. I was manager of health and safety for the metal division.

Q. And what concerns, if any, did you have regarding the handling of thalium drosses in or around 1971?

A. Because thalium is toxic.

Q. Directing your attention to the second page of Exhibit 2, do you recall if this page is in fact the attachment that you sent with your memo dated 11/29/71?

A. It appears to be.

Q. And directing your attention to the first paragraph which states, "Confirming our conversation with respect to the toxicity of the thallium drosses generated at the Hoyt plant." Do you recall what conversation you're referring to in your memorandum?

A. The conversation I had with him with

reference to my visit to the plant.

Q. And do you recall where that conversation occurred?

A. No. I have no idea.

Q. And do you recall what the topic of that conversation was?

A. My visit.

Q. Do you recall if anyone else was present at the conversation?

A. No, I do not.

Q. Do you remember approximately how long the conversation occurred?

A. No.

Q. And do you remember approximately when the conversation occurred in relationship to this memorandum which is Exhibit 2?

A. Obviously in the near past, prior to this date.

Q. Do you recall if you had any conversations with anyone besides Mr. Eichorn regarding the disposal of thalium drpsses?

A. Ever?

Q. Ever.

A. Probably discussed it with the

industrial hygienist.

Q. And do you recall who that would be?

A. Not -- maybe somebody within our organization. I don't know. I don't remember.

Q. And do you recall if you had any responsibility for determining what, if any, environmental regulations were applicable to thalium drosses?

A. No.

Q. I'm sorry. Was that no, you didn't have responsibility?

A. No, didn't have responsibility.

Q. Do you recall who would have had responsibility for looking into regulations in relationship to thalium drosses in 1971?

A. From a corporate standpoint?

Q. Yes.

MR. GALLIGAN: I'm going to object on foundation grounds.

A. I don't really remember who was in charge of environment corporate-wise. I have no idea.

Q. Okay. What about at the plant level, do you recall who at the Granite City plant would have had responsibility for the proper disposal of thalium drosses?

A. The ultimate responsibility would be to the plant manager or superintendent, whoever it was at the time. I don't recall who.

Q. Do you recall who a Mr. R.W. Merritt was?

A. Bob Merritt, Robert.

Q. And do you recall whether or not he worked for NL industries in or around 1972?

A. Yes, he did.

Q. And do you recall Mr. Merritt's relationship in the organization to you?

A. When I first came to New York, I worked for Bob Merritt.

Q. Do you recall what Mr. Merritt's title was when you first met him?

A. No, not really.

Q. So is it fair to say approximately 1970 is when you met Mr. Merritt?

been things happening on site?

A. That's correct. Oh, I remember his name from Hamlin, Danny Kestenbaum. That's amazing I can do that. And his father was Manny Kestenbaum.

Q. You had testified about an exhibit yesterday, Exhibit Number 2. And there is a recommendation on your part about procedures for handling thalium drosses. Do you know what steps were taken in response to this memo? Do you know if anything was done about your recommendation?

A. Yeah. I believe they started putting the dross in drums and encasing them in concrete.

Q. Is it your understanding that the response solved the problem that your memo was addressing?

A. Yes.

Q. Are you aware of any further issues involving thalium drosses at Granite City?

A. No, because the volume was extremely small, the drosses generated.

Q. Are you aware of any

circumstances or any occasions when you made recommendations relating to the Granite City plant and NL didn't respond to your recommendations?

A. No. I'd say a pretty good batting record. They responded and usually did what I requested them to do.

Q. You can't think of any situations where you made a health related recommendation that was not followed?

MR. BOURY: Object to form.

A. No. I don't believe I can pinpoint any one.

Q. Could you pull out Exhibit 36. I think you testified earlier today that Mr. Baser asked you to send a copy of the environmental checklist to your three inspectors.

A. Yes, that's correct.

Q. Did you have any involvement with this environmental checklist beyond just sending it on to your employees?

A. No.

Q. You had no responsibilities relating to this?

THALLIUM - Skin

Tl

0.1 mg/m^3

According to Patty(1), thallium is one of the more toxic elements from the standpoint of both acute and chonic poisoning, and regardless of the rate of intake. LD_{50} values for different compounds, by various routes of administration and for several species of animals ranged from 3 to 92 mg/kg. The most characteristic symptom of intoxication is alopecia (loss of hair). Other symptoms in acute poisoning relate chiefly to the gastrointestinal tract or nervous system. In chronic poisoning such manifestations as incoordination, paralysis of extremities, endocrine disorders and psychoses may develop.

Heyroth(2) in a 1947 review of the literature, noted reports of 778 cases, 46 of them fatal, prior to 1933, and several more in the following 14 years. Most of these cases were caused by the ingestion of thallium salts, many of the victims being children. Reed et al.(3) in a follow-up of 72 of over 130 children poisoned by thallium in Texas between 1954 and 1959, stated that since 1932 hundreds of cases of thallotoxicosis due to the ingestion of pesticides had been reported. In 26 of 48 children poisoned by thallium who were examined later, neurological abnormalities were found, with mental retardation and psychoses the most common findings.

Occupational poisoning was reported in connection with the preparation and use of thallium containing pesticides(4,5). Richeson(6) described 12 cases of varying severity among 15 men using organic thallium salts. Absorption through the skin was postulated, since tests revealed no thallium in the air. The chief complaints were abdominal pain, fatigue, irritability, weight loss, and pains in the legs. Loss of hair was noted by only four men. In one of the worst cases a urinary thallium concentration of about 1 mg/liter was found.

Truhaut(7) made extensive studies of thallium toxicity, and Downs and co-workers(8) showed that thallium and thallic compounds were both extremely toxic. Despite these investigations and reports, no satisfactory data exist from which to derive a threshold limit for thallium. The value of 0.1 mg/m^3 is based largely on analogy with other highly toxic heavy metals. Truhaut(9) considered this a satisfactory value to protect against systemic toxicity. The Soviet limit (1967) was 0.01 mg/m^3.

References:

1. Patty, F.A.: Industrial Hygiene and Toxicology, Vol. II, 2nd Ed., pp. 1138-1143, Interscience, New York (1963).
2. Heyroth, F.E.: Pub. Health Repts. Suppl. 197 (1947).
3. Reed, D., Crawley, J., Faro, S.N., Pieper, S.J., Kurland, L.T.: J. Am. Med. Assn. 183, 516 (1963).
4. Foreign Letters, J. Am. Med. Assn. 159, 510 (1955).
5. Pub. Health Repts. 77, 518 (1962).
6. Richeson, E.M.: Ind. Med. & Surg. 27, 607 (1958).
7. Truhaut, R.: Recherches sur la Toxicologie du Thallium; Inst. nat. soc. pour prevent. des accidents du travail, Paris (1959).
8. Downs, W.L., Scott, J.K., Steadman, L.T., Maynard, E.A.: Am. Ind. Hyg. Assn. J. 21, 399 (1960).
9. Truhaut, R.: Personal communication to TLV Committee member (1959).

DISPOSAL OF THALLIUM LEAD DROSSES 11/29/71

Mr. F. A. Eichorn, Manager St. Louis Region - Granite City

J. W. Roper Metal Division - New York Office

Confirming our conversation with respect to the toxicity of the thallium drosses generated at the Hoyt Plant, it was decided to proceed as follows:

1. You will direct someone in your organization to find out from AS&R, the supplier of the thallium ingots; if they will purchase the dross, or if they can direct you to someone who does handle thallium drosses.

2. If the above proves fruitless, the cost of placing the 22 gal. drums in concrete before disposal should be investigated.

Attached is a fact sheet on Thallium and I think you will agree that more care must be taken with these residues than in the past.

I would appreciate hearing of your progress in this matter.

JWR/cc
Attachment

cc: R. W. Merritt
S. Williams

TX 500701

EXHIBIT
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EXHIBIT
ID
Roper 2

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY
NEWARK, NEW JERSEY
CIVIL ACTION NO. 90-2125 (HLS)

NL INDUSTRIES, INC.,

Plaintiff, - Deposition of:

v. ROBERT SCHIKORE

COMMERCIAL UNION INSURANCE COMPANY, et al.,

Defendants.

TRANSCRIPT of testimony as taken by and before DIANE GLOCKNER, a Certified Shorthand Reporter and Notary Public, at THE HYATT REGENCY, Union Station, St. Louis, Missouri, on Friday, January 8, 1993, commencing at 9:45 in the forenoon.

A. Slag is what you get out of the blast furnace. That's the accumulation of all the materials that you're getting out of the scrap metal that we brought in.

Q. Is slag reuseable?

A. Slag is not.

Q. It was put in the slag storage area?

A. Right.

Q. What else was put in the slag storage area?

A. Primarily we cut batteries apart and crushed the cases, so there was a lot of plastic and rubber in this pile, too.

Q. Anything else in that pile?

A. To my knowledge, I never saw anything else put in there.

Q. Do you know of anything else that was put in there?

A. I heard stories about -- I don't remember what it was now, tellurium dross.

Q. That was put in the slag pile?

A. Right.

Q. What is that?

A. It's a -- they made a tellurium lead

at one time that I believe was down at the rolling mill, and I don't even know what it was for, but the dross in that was extra hazardous so they didn't reuse it. They encased it in concrete.

MR. JEFFIRS: Let me object and move to strike as hearsay and without foundation.

Q. You can go on. They put this dross in concrete, is that what you're saying, and put it into this pile?

A. Yeah.

Q. You're saying it was hazardous. What do you mean by that?

A. I don't know in what way it was hazardous, but I heard it was hazardous.

Q. By your definition, what would you consider hazardous?

A. Hazardous to people.

Q. Dangerous, you mean?

A. Yeah.

Q. The stuff that was put into this slag pile, would you consider the slag a pollutant?

A. Slag wasn't, no, because it was solid.

Q. Okay. And this tellurium dross you just described, would you consider that a pollutant?
A. It could be a pollutant.
Q. And how about the pieces from the batteries, how about those, would those be considered a pollutant?
A. For the most part, they were pretty clean. They were washed before they were put out there.
Q. Before we got sidetracked, you were telling me they took tests around the perimeter. What kind of tests did they take there?
A. The air quality test.
Q. And this was performed by the lab --
A. Right.
Q. -- on the site? And these were chemists in the lab?
A. Chemists and assistants, yeah.
Q. They were NL employees?
A. Right.
Q. Did anybody else take tests around that site? We're talking about when